



RADIO CONTROL MODEL

**INDEX '91**

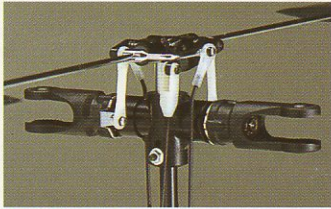
HELICOPTERS

AIRPLANES

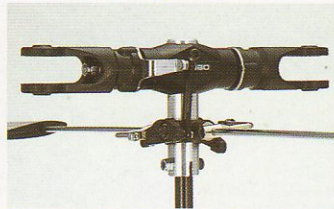
OPTIONAL PARTS

**HIROBO**®

# OPTIONAL PARTS



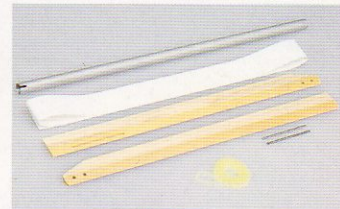
**NS Rotor Head Assy** 0402-122  
For standard Shuttle & XX, Floating Type, Higher stability.



**Shuttle FZ Rotor Head Assy** 0402-214  
This mechanism contributes to enhancing the flying performance and the stunt ability. It is available in all the conventional types of SHUTTLE.



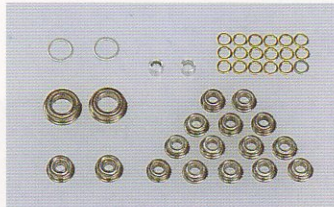
**Shuttle MRB III Rotor Head Conversion Set** 0402-135  
This conversion set includes MRB rotor head, main blade, swash plate, etc. which are used for remodelling SHUTTLE to three-rotor type.



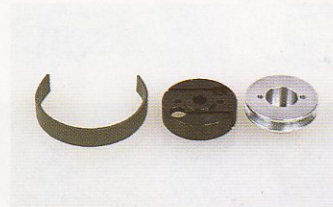
**Long Main Rotor** 0402-129  
Weighted long main blades improves stability, aerobatic performance, and autorotation characteristics. Must be used in conjunction with 0402-074 Tail Boom and 2504-015 Long tail drive belt.



**Air Cushion Skid** 2513-015  
For beginners training aid. Yellow/black two tone. Applicable to all types Shuttle and others.



**Shuttle XX & ZX Bearing Set** 0402-123  
Complete set of 18pcs bearing and shims for conversion of standard Shuttles to XX specification.



**SE Clutch Set** 0402-126  
One-piece all metal construction provides excellent durability, improved alignment, and smooth engagement.



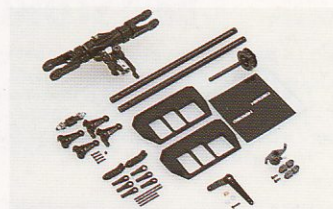
**SE Tail Pitch Plate** 0402-139  
Dual ball bearings for smooth rudder action.



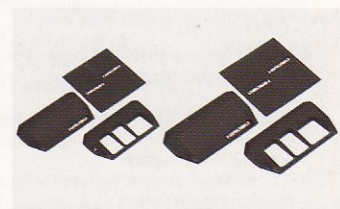
**Metal Swash Plate** 0402-140  
Inline, high precision, all metal construction with 8mm center sliding bushing.



**Shuttle Main Rotor Blade & Tail Boom Shrink Tube** 2400-017  
55 x 1400mm  
White colour only.



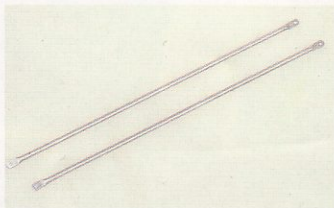
**Shuttle Z-Series Conversion Set** 0402-218  
Parts set for converting standard/ XX type Shuttle into Z Type.  
Set including: FZ rotor head assy 0402-214, CG balanced stabilizer blade 0402-208, Main Mast 0402-207, Inside tail pitch plate 0402-205, Inside tail housing 0402-216, Inside tail drive shaft 0402-204, Inside tail pitch lever 0402-206



**CG Balanced Stabilizer Blade** 0402-208  
For Shuttle: (Z & ZX standard equipped) 0402-208  
For SST Condor & Eagle: 0404-208  
Inserted balance weight on front edge to position CG right on flybar.



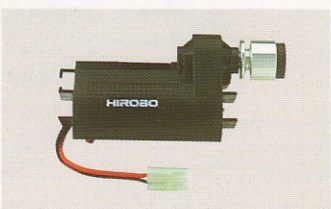
**New Landing Skids for Shuttle** 0402-220  
High strength, frequency noise free, Standard equipped in XX & ZX version.



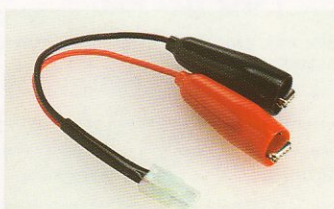
**NS Tail Boom Brace** 0402-113  
Minimizing tail vibrations. For standard Shuttle (XX & ZX version already equipped).



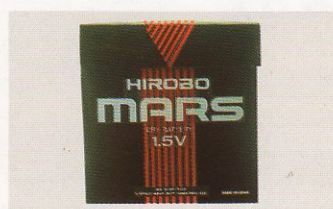
**Shrinkable Tube**  
Tail rotor shrink tube. 36mm width for .40-.60 class heli. Black: 2400-014 Red: 2400-015 White: 2400-016  
Main rotor shrink tube. 62mm width for .40-.60 class heli. Black: 2400-011 Red: 2400-012 White: 2400-013  
70mm width for larger size heli: 2400-018



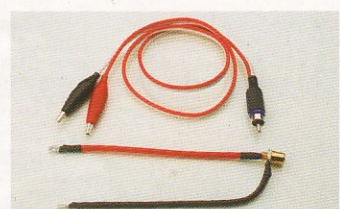
**Z- Starter** 2400-002  
Powered by 7.2/8.4V Nicad packs and/or 12V. With one-way bearing. .10 to .61 size engines. For most handy helicopter engine start.  
**Z- Starter (Revers-Type)** For VERTOL. 2400-010  
**Revers Gear Set** 2400-009



**12V Addaptor cord** 2400-001  
12V Adapter Chord for Z- Starter .46-.61 engine start. Please use 12V battery to start .46-.61 class engine.



**Mars Battery 1.5V** 2401-004  
Long life 1.5V dry battery for plug heat (with plug checker)



**One touch booster cord** 0402-065  
One Touch Plug Heat Booster Chord. For all types side frame helicopters also scale fuselages.

# S PORTS FLIGHT HELICOPTERS



**SST-EAGLE**

- Hirobo's top-of-the-line F3C competition machine.
- 1989-1990 Worldchampionship & 1989 Japanese Nationals Winner SSR-II standard equipped.
- S-Type: Tail shaft drive system.  
B-Type: Tail belt drive system.
- Newly modified higher strength main side frames.
- Large size 500cc fuel tank standard equipped.
- New high precision light weight tail gear system.
- Various high precision option parts available.



**BBZ-STORK**

- All new lightweight FFZ rotorhead designed with high stability and aerobatic capability in mind.
- High strength, lightweight, landing gear.
- High reliability, low noise, lightweight belt type tail drive system.
- O.S. EX46VF engine included with special cooling fan system.
- Cone starter system can be used. (optional parts)
- Newly designed cabin for better aerodynamics and lighter weight.
- Most spare/option parts interchangeable with SST-CONDOR and SST-EAGLE.
- One piece in line clutch shaft ensures perfect alignment.



**SST-CONDOR**

- HIROBO'S Newest metal type rotor head, the SSR-III
- Now has the same frame and servo mount as the new SST-EAGLE, also available with shaft drive tailrotor.
- A 60 size helicopter for the beginner to the expert flier.
- There are 3 to choose from, so pick the one you like.
- ① New SST-CONDOR Shaft Type SSR-III Rotor Head
- ② New SST-CONDOR Shaft Type FFZ Rotor Head
- ③ New SST-CONDOR Belt Type FFZ Rotor Head

# OPTIONAL SCALE BODY

Model	JESS	NOVA(M)	ECUREUIL(M)
SST-EAGLE(S)(B)	(S)○ (B)△	○	(S)○ (B)△
SST-CONDOR(S)(B)	(S)○ (B)△	(S)○ (B)△	(S)○ (B)△
BBZ-STORK	×	△	△

○ : OK, × : will not fit, △ : need modification



\* Exclude skid foot Assy.



0404-931

**JESS**

- Wider & broad opening for easy maintenance.
- Strong tail boom pipe reducing rudder vibration.
- Use for: SST-EAGLE, \*BBL-HAWK, \*SST-CONDOR

\* Exclude skid foot Assy.



0404-903

**NOVA(M)**

- Use for: SST-EAGLE, \*BBL-HAWK, \*BBC-STORK, \*SST-CONDOR, \*BBZ-STORK

\* Exclude skid foot Assy.



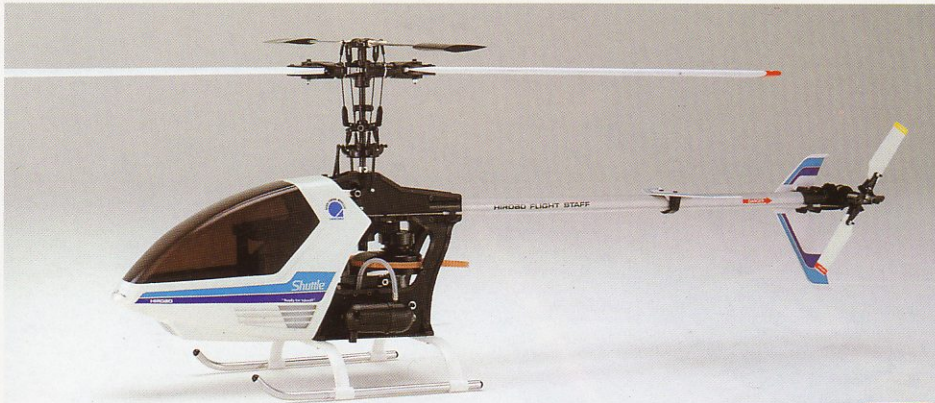
0404-904

**ecureuil 2 (M)**

- Use for: SST-EAGLE, \*BBL-HAWK, \*BBC-STORK, \*SST-CONDOR, \*BBZ-STORK

Model	BBZ-STORK	SST-CONDOR EX	SST-EAGLE	VERTOL KV-107 II 32/46
Main rotor dia.	1,340mm	1,500mm	1,500mm	Front 1,050mm
Tail rotor dia.	250mm	280mm	280mm	Rear 1,050mm
Body length	1,250mm	1,340mm	1,330mm	970mm
Overall weight	3,700g	4,500g	4,600g	4,350 - 4,800g
Engine	EX46VF-H	60-61 class	60-61 class	32-46 class
R/C unit (for heli)	4ch. 5 servo	4ch. 5 servo	4ch. 5 servo	5ch. 5 servo
Part No.	0403-907	0404-041 Shaft Type SSR-III R/H 0404-942 Shaft Type FFZ R/H 0404-943 Belt Type FFZ R/H	0404-936 Shaft drive 0404-937 Belt drive 0404-938 Mechanical kit	0406-901

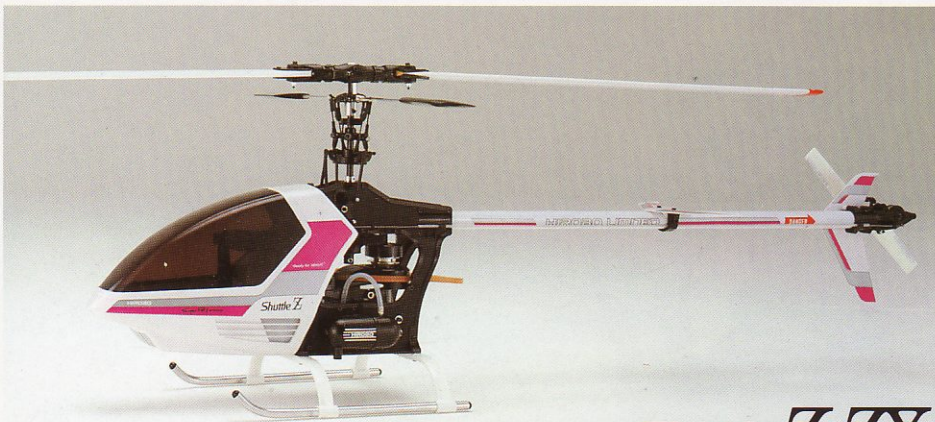
# S HITTLE WORLD



\*SHUTTLE

**Shuttle. Shuttle XX**

- Fully completed ready to fly.
- High power OS.MAX 32F-H engine.
- New one piece feathering spindle, easy replacing for maintenance.
- XX model: All ball bearings (18 pcs) in control linkage part.
- New modified higher impact strength side frames.
- New open type tail drive unit case.



\*SHUTTLE Z

**Shuttle Z. ZX**

- New FZ rotorhead increase both aerobatic performance and stability.
- Includes Shuttle option parts Weighted Long Main Blades, Long tail boom and Long tail drive belt as standard equipment.
- New modified higher impact strength side frames.
- New open type tail drive unit case.
- Enlarged fuel tank now holds 230 c.c. instead of 190 c.c.
- Includes C.G. balanced stabilizer paddle for extra aerobatic performance.
- ZX model includes 20 ball bearings for precise and smooth operation.
- ZX model includes All-Metal clutch as standard equipment.
- ZX model includes slanted engineering plastic landing gear and tail boom brace.
- Conversion Set 0402-218
- Shuttle ZX Assembly kit 0402-968



**Shuttle ZX SUPREME**

\*SHUTTLE ZX SUPREME

- Fully completed kit with R/C system installed.
- High power O.S. 32-FHX recoil starter engine included.
- ZX model includes O.S. 32-FH.
- 1000mAh receiver nicad battery with charger included.

MODEL	Radio	Servo	Gyro	Engine Starting accessories
SHUTTLE SUPREME	FUTABA challenger FM5NH	FP-S148	FP-G154	Included-Mars 1.5V battery, battery cord, fuel pump.
SHUTTLE ZX SUPREME	FUTABA FF7	FP-S3001	FP-G154	—

Model	SHUTTLE	SHUTTLE WITH RECOIL STARTER	SHUTTLE XX	SHUTTLE XX WITH RECOIL STARTER	SHUTTLE Z	SHUTTLE Z WITH RECOIL STARTER	SHUTTLE ZX	SHUTTLE ZX WITH RECOIL STARTER	SHUTTLE SUPREME	SHUTTLE ZX SUPREME
Lenght with rotor	1,320mm	1,320mm	1,320mm	1,320mm	1,458mm	1,458mm	1,458mm	1,458mm	1,320mm	1,458mm
Overall lenght	1,005mm	1,005mm	1,005mm	1,005mm	1,070mm	1,070mm	1,070mm	1,070mm	1,005mm	1,070mm
Overall width (at skid)	220mm	220mm	220mm	220mm	220mm	220mm	198mm	198mm	220mm	198mm
Overall height	395mm	395mm	395mm	395mm	395mm	395mm	385mm	385mm	395mm	385mm
Main rotor dia.	1,100mm	1,100mm	1,100mm	1,100mm	1,240mm	1,240mm	1,240mm	1,240mm	1,100mm	1,240mm
Tail rotor dia.	215mm	215mm	215mm	215mm	215mm	215mm	215mm	215mm	215mm	215mm
Rotordisk area	Main rotor	95dm <sup>2</sup>	95dm <sup>2</sup>	95dm <sup>2</sup>	120dm <sup>2</sup>	120dm <sup>2</sup>	120dm <sup>2</sup>	120dm <sup>2</sup>	95dm <sup>2</sup>	120dm <sup>2</sup>
	Tail rotor	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>	3.8dm <sup>2</sup>
Gear ratio	Main rotor: Engine	1:9.625	1:9.625	1:9.625	1:9.625	1:9.625	1:9.625	1:9.625	1:9.625	1:9.625
	Main rotor: Tail rotor	1:5.5	1:5.5	1:5.5	1:5.5	1:5.5	1:5.5	1:5.5	1:5.5	1:5.5
Overall weight	2,300g	2,300g	2300g	2,300g	2,300g	2,300g	2,350g	2,350g	2,300g	2,350g
Engine	OS.MAX32F-H	OS.MAX32F-HX	OS.MAX32F-H	OS.MAX32F-HX	OS.MAX32F-H	OS.MAX32F-HX	OS.MAX32F-H	OS.MAX32F-HX	OS.MAX32F-HX	OS.MAX32F-H
Part No.	0402-953	0402-958	0402-958	0402-963	0402-959	0402-972	0402-961	0402-973	0402-955	0402-986

# S SHUTTLE WORLD



\* Exclude this skid foot Assy.

\* Main blade L-550, Tail boom pipe L-617, and timing belt are necessary to install.

**Shuttle NOVA** 0402-943  
Painted body



**Shuttle BELL 222** 0402-941  
Un-painted body

\* Main blade L-550, Tail boom pipe L-617, and timing belt are necessary to install.

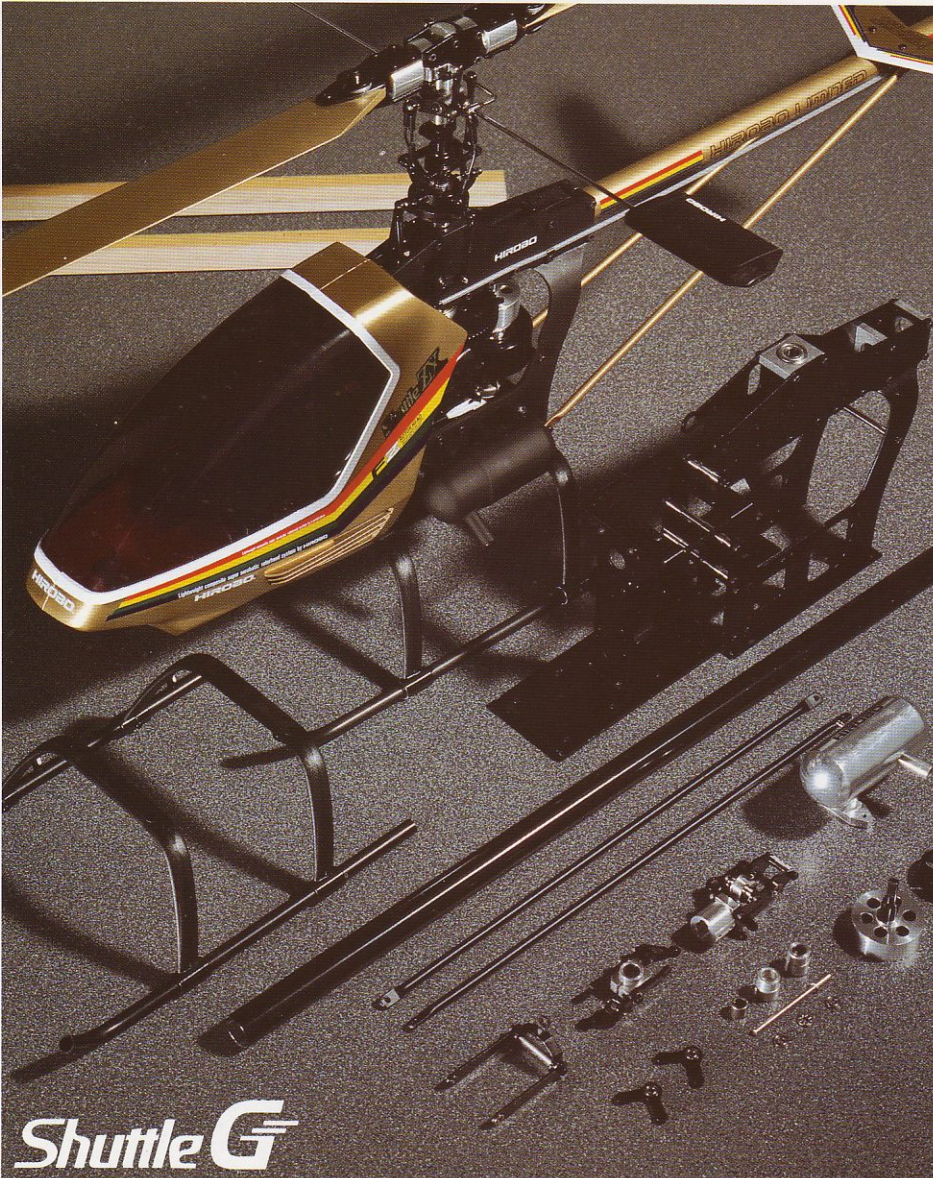


**Shuttle JetRanger** 0402-911  
Painted body

\* Exclude this skid foot Assy.

\* Main blade L-550, Tail boom pipe L-617, and timing belt are necessary to install.

# G OLD SHUTTLE



## SE CLUTCH BELL

- Machined Aluminum for precision and strength.

## SE AUTOROTATION TAIL DRIVE

- Autorotation clutch is included to drive the tail during autorotation, making it easier to land in the wind.

## SE RADIUS ARM ASSY

- Removes slop from the swash.

## SE DOUBLE WASHOUT

- Metal control arms for quick response.

## SYMMETRICAL BLADES

- Fully symmetrical for dynamic and inverted flight.

## SE GUIDE PULLEY

- For precision and long life.

## SE BEARING AILERON LEVER

- Metal Bell Cranks for sharp control.

## SE ROTOR HEAD

- Metal Head with thrust bearings for high rpm and quick control.

## SE MAIN GEAR

- Machine cut main gear and aluminum autorotation housing.

## 8mm DIA SWASH PLATE

- Metal for long life and precision.

## SE MUFFLER

- Extremely quiet and delivers more power

## SE MAIN FRAME AND SERVO MOUNT

- Metal Frame is stiffer for better control response, also better cooling.

## SE SHAFT START

- No more need for a belt making it easier to start the engine inside scale bodies.

## SE TAIL UNIT AND TAIL LEVER

- Machine cut aluminum parts for long life and sharper response.

**Shuttle G**

S

## SCALE HELICOPTER



**VERTOL KV-107II 32/46**

- Multi Rotor Blade Fly-barless head bring realistic smooth flight.
- Tooth belt drive system brings an excellent mechanism of light-weight and high rigidity.
- Fuselage is made of F.R.P.
- Decal for U.S. MARINE and Japan Self-defense Forces are included.
- You can use any Radio sets for Heli. by mechanical mixing system.
- Rear mast has a tensioner for drive belt.
- Gear ratio/Engine: F. rotor :R. rotor/9.625:1:1
- Direction of main rotor/F. rotor...Clock wise, R. rotor...Counter clock wise
- Gyro/1~3 (Elevator®, Rudder®, Aileron®)
- ※ It's necessary to use "Gyro" for elevator (pitch control)

0406-901

E

## ELECTRIC POWER

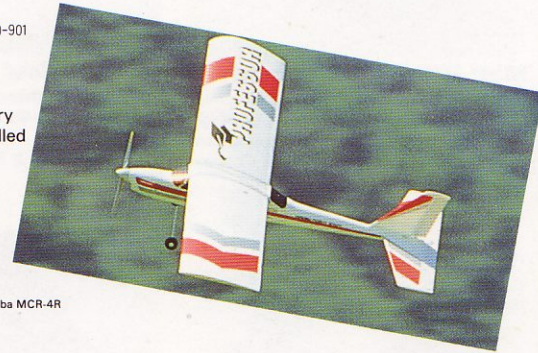


### PROFESSOR FULL SET 0000-901

This model kit includes the followings.

- Radio Ni-cd battery and charger installed to a full set of airplane.

- Raido/Futaba challenger, 4N MCR
- Saturn 7.2V, 1200mAh, Ni-cd battery with Charger
- ★ These have been pre-assembled in the body.
- Servo/Futaba FP-S143 x 2
- Receiver with amplifier/Futaba MCR-4R



- 90% of the kit has been preassembled in our workshop before shipment. 0000-902
- At the day when you receive it, you will enjoy the flight.
- Professor ensures the optimal flying speed by easy-to-control design and safe/light wing loading design as a beginner's airplane. So, it is hardly stall.
- 7.2V 1,200mAh nickel-cadmium battery ensures about 10 minutes flight at average.

P

## ETIT HELICOPTER



**NEW CONCEPTION MH-10 BK117**



**NEW CONCEPTION MH-10 ECUREUIL 2**



**NEW CONCEPTION MH-10**

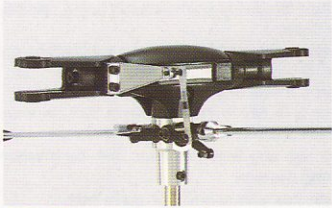
★ Tail housing set showing in this picture is optional parts 0408-052

- Easy controllable bell-hiller combination main rotor head.
- Totally new innovative power transmission mechanism and swashplate control system.
- High strength engineering plastic main side frames.
- Cocked belt tail drive.
- World smallest handy size glow engine helicopter.
- Almost ready to fly factory assembled with OS.MAX-CZ-H engine installed with muffler. Average assembly time is only 2 hours including radio gyro installation.
- High strength landing skids stands for hard landing.
- Light weight ABS scale fuselage.
- Main Rotor Span/900mm(35.4") ● Width/190mm(7.5") ● Gear Ratio/9.7:1:5
- Tail Rotor Span/185mm(7.3") ● Height/300mm(11.8") ● Gyro/Recommended.
- Length/MH-10·MH-10/BK117 850mm(33.4") ● Radio/4ch. 5s. (Mini size)
- MH-10/ECUREUIL2 930mm(36.6")
- Full-equipped Weight/MH-10 1,700g(3.7 lbs)
- MH-10/BK117 ECUREUIL2 1,900g(4.2 lbs)

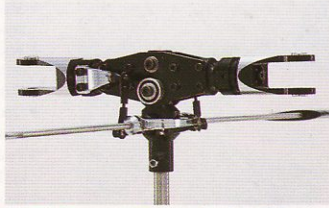
0408-901 (MH-10)

0408-902 (MH-10/BK117)

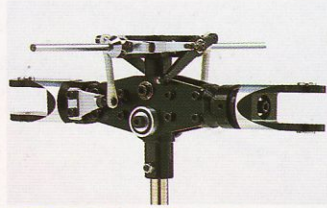
0408-903 (MH-10/ECUREUIL2)



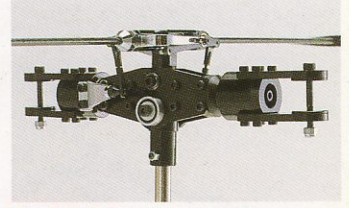
**FFZ Rotor Head Assy**  
0402-215  
This new resin-made rotor head has been accomplished a high performance with low cost.



**SSZ Rotor Head** 0404-224  
Quick & sharp response. Applicable to all Hirobo helicopter with 10φ main mast.



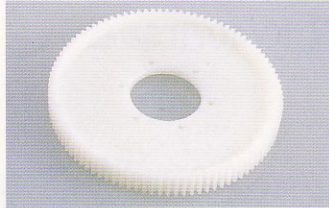
**SSR-II Rotor Head Assy**  
0404-220  
New seesaw type with large size damper rubbers interchangeable to DDF and/or SSR-II rotorhead. 1989 world champion winner.



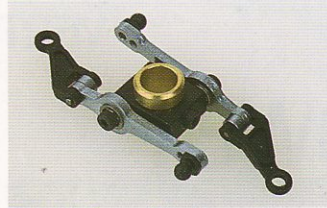
**SSRIII Rotor Head Assy**  
0404-229  
From the SSR-II blood line comes a high quality metal Rotor Head at a lower price.



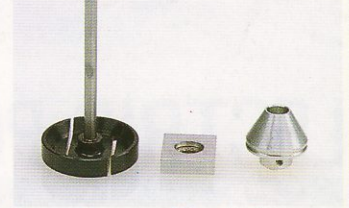
**Mast Housing With Thrust Brg** 0404-053  
Main mast housing with thrust bearing. Especially good for smooth autorotation descending. For BBZ Stork; SST Condor SST Eagle.



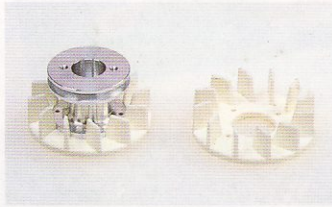
**EX Main Gear**  
EX main gear. drive  
95T 0404-056, 97T 0404-057, 99T 0404-058  
For SST Condor & Eagle.



**EX-W Type Washout Set**  
0404-055  
High precision machining with 4pcs bearings. Good for FAI patterns. Applicable to BBZ Stork; SST Condor & Eagle



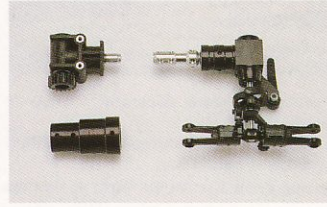
**Cone Starter Clutch Assembly** 0404-110  
For converting SST Eagle's belt start system into cone start.



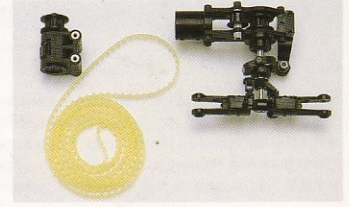
**EX Starter Pulley Set**  
OS engine type: 0404-113  
YS engine type: 0404-114  
latest design for accurate engine shaft alignment. Eliminate engine vibrations.



**EX Autorotation Clutch**  
0404-115  
Tail rotating controllable in autorotation descending. Necessary to FAI rule.



**SST Tail Drive Set-S**  
0404-939  
For converting SST's belt tail drive system into shaft system.



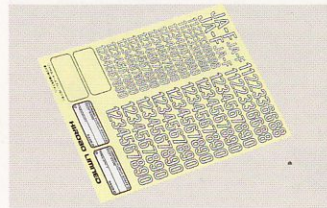
**SST Tail Drive Set-B**  
0404-940  
For converting SST's shaft tail drive system into belt system.



**Square Type Side Exhaust Muffler**  
For .50-.61 engine. 0400-124  
For OS 61F-H 0400-103  
Light weight high efficiency.



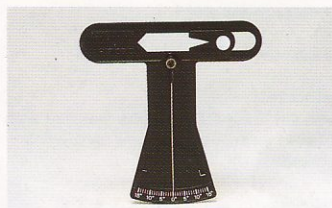
**Square Type Rear Exhaust Muffler** 0401-095  
For .60-.61 engine.



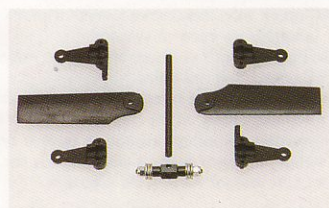
**Number Decal** 0403-098  
Two size 0-9 numbering decals.



**Rotor Blade Tracking Tape**  
0403-097  
Both main & tail rotorblade decal tape for clear visibility.



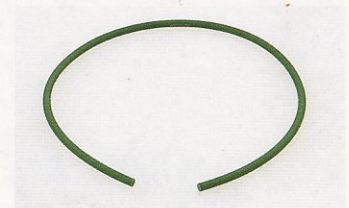
**Pitch Gauge** 2513-019  
This pitch gauge is of a pendulum type which is very easy in use and can be used for measuring the pitch of various kinds of blade up to 70mm wide at maximum.



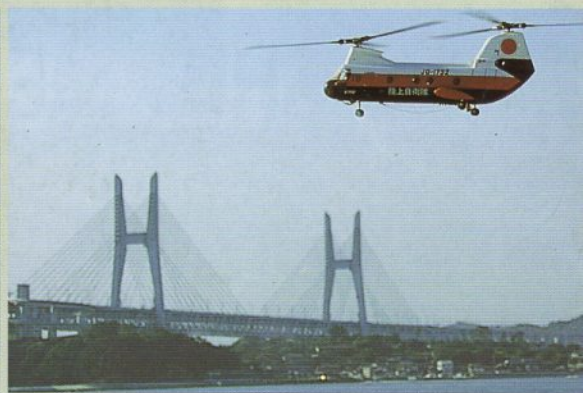
**Tail Housing Set** 0408-052  
For the MH-10 series a ball bearing equipped tail rotor is used to improve control.



**Hobby Oil** 2515-003  
Hobby Oil with nozzle, with molybdenum contents. All purpose tail drive shaft, transmission etc., 50cc.



**Engine starting Spar Belt**  
2504-023  
φ5 x 500mm  
Instantly heat bindable for emergency used.



**HIROBO LIMITED**

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\* Specifications are subject change without notice improvement and modification.